

Notice of Allowability

Application No.

10/029,305

Examiner

Eleni Mantis Mercader

Applicant(s)

HARDY ET AL.

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on 6/3/2004.
2. ☒ The allowed claim(s) is/are 25-28, 30-39, 41-46 and 49.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 6/23/2004.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 6/23/2004.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Eleni Mantis Mercader
Primary Examiner
Art Unit: 3737

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Paul Adams (Registration No. 21,096) on 6/23/04.

3. The application has been amended as follows:

(1). Cancel claim 29.

(2). Amend claims 25, 30, 45 and 49 as follows:

(Currently Amended) 25. A whole body stereotactic localization and immobilization system comprising:

a patient elongated support frame having a longitudinal axis including at least two fiducials, two of said at least two fiducials positioned generally parallel with the longitudinal axis, said two fiducials each comprising a repetitive trigonometric waveform, the position of the first one of said two fiducials being longitudinally offset from the position of the second one of said two fiducials; and

a body immobilizing device for maintaining the patient's body in fixed relationship to the fiducials at least during imaging, of said two fiducials having trigonometric waveforms, one of said waveforms is sinusoidal and the second is cosinusoidal.

(Currently Amended) 30. The whole body stereotactic localization and immobilization system of Claim 25 ~~29~~ wherein the position of the sine and cosine fiducials are transversely apart.

(Currently Amended) 45. A whole body stereotactic localization and immobilization system comprising:

a patient elongated support frame including an imaging resolver having at least two fiducials each of which has a repetitive trigonometric waveform, one of said repetitive

Art Unit: 3737

waveform fiducials offset from a second repetitive waveform fiducial, of said two fiducials having trigonometric waveforms, one of said waveforms is sinusoidal and the second is cosinusoidal; and

means for temporarily immobilizing the patient's body in relation to the imaging resolver.

(Currently Amended) 49. A method for stereotactic localization of a portion of a human body comprising:

placing the patient's human body including a lesion on a support frame;

temporarily immobilizing the patient's body during imaging by a scanning device such as computed tomography or magnetic resonance imaging;

providing a fiducial pattern on said frame for creating markers on the patient image to create a reference system;

configuring the fiducial pattern so as to include at least two fiducials each of said fiducials having a repetitive trigonometric waveform one of said repetitive waveform fiducials offset from a second repetitive waveform fiducials, of said two fiducials having trigonometric waveforms, one of said waveforms is sinusoidal and the second is cosinusoidal;

providing a computer system for displaying said images, including said markers, and a software program for utilizing said fiducial markers for accurate stereotactic positioning information;

creating a radiation therapy plan for treatment of a lesion the position of which is determined based on the images and computer program;

immobilizing the patient's body in a radiation therapy delivery device; and

delivering radiation therapy to the applicable portion of the patient's body so as to treat the lesion.

4. The following is an examiner's statement of reasons for allowance: The prior art of record does not fairly teach or suggest a method or an apparatus having a support frame with at least two offset fiducials having trigonometric waveforms, one of the waveforms being sinusoidal and the second being cosinusoidal. While Chakeres'794 teaches a trigonometric apparatus with offset markers 82 and 83 as depicted in Figure 8, these markers are not of a sinusoidal and cosinusoidal waveform. Cosman et al'265, in Figures 6-7 appear to show repetitive waveforms but they do not teach fiducials of a sinusoidal and cosinusoidal waveform.

Art Unit: 3737


5. New corrected drawings are required in this application because the drawings are informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 3737

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is 703 308-0899. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (703) 308-5181. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Eleni Mantis Mercader
Primary Examiner
Art Unit 3737

EMM